

Applicant: STAHLER, Martin
Serial No.: 10/588,736
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Page 2

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AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listing of claims in the Application. Please cancel Claim 3 without prejudice. Please amend the claims to read as follows.

1. (Cancelled)

2. (Currently Amended) A screw centrifugal pump in accordance with claim 11, wherein the guide vane is displaceable in the direction of the axis of rotation and is fixably mounted and wherein the fixed position of the guide vane is adjustable.

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Previously Presented) A screw-centrifugal pump in accordance with claim 13, wherein the blade edge section has a first tangent at the first point, the guide vane edge section has a second tangent at the second point and the first and second tangents form an intersection angle of at least 10 degrees in a plane perpendicular to the axis of rotation.

7. (Previously Presented) A screw-centrifugal pump in accordance with claim 6, wherein the intersection angle is between 30 degrees and 180 degrees.

8. (Previously Presented) A screw-centrifugal pump accordance with claim 12, wherein the blade edge section or the guide vane edge section formed at least partly as a cutting edge.

Applicant: STAHL, Martin
Serial No.: 10/588,736
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Page 3

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9. (Currently Amended) A method for the conveying of a liquid permeated with solid additions using a screw-centrifugal pump wherein, comprising:

directing material from an inlet opening to an interior space of an impeller using a guide vane comprising a guide vane edge, wherein the guide vane is disposed near the inlet opening and, as the impeller rotates about an axis of rotation, the guide vane edge, in the direction of rotation, increasingly projects in the direction of the axis of rotation of the impeller and into an interior space of the impeller, so that the liquid is directed with the aid of a guide vane to a blade entry edge of a rotating impeller in such a way that at least one part some of the solid additions slides slide along [the] a spirally extending blade entry edge of the impeller, such that the solid additions are moved mechanically in a flow direction of the fluid by the impact of the blade entry edge.

10. (Previously Presented) A method in accordance with claim 9, wherein a guide vane edge of the guide vane and the blade entry edge mutually cooperate when the impeller is rotating such that the solid addition located between the blade entry edge and the guide vane edge is mechanically comminuted by the blade and vane edges or shifted in the directions that rotating the impeller causes materials to flow.

11. (Currently Amended) A screw-centrifugal pump, comprising:

a pump housing;
an inlet opening;
an impeller comprising a spirally extending blade entry edge that rotates about an axis of rotation in a direction for carrying material away from the inlet opening; and
a guide vane comprising a guide vane edge, wherein the guide vane is disposed near the inlet opening and projects the guide vane edge, in the direction of rotation, increasingly projects in the direction of the axis of rotation of the impeller and into an interior space of surrounding the impeller.

12. (Currently Amended) A screw-centrifugal pump in accordance with claim [[3]] 11,

Applicant: STAHLE, Martin
Serial No.: 10/588,736
Filed: August 8, 2006
Page 4

wherein the guide vane edge includes a guide blade vane edge section and forms a fixed three-dimensional curve and the blade entry edge includes a blade edge section and forms a rotatable three-dimensional curve, wherein the fixed and rotatable three-dimensional curves extend in a mutually matched manner such that the guide vane edge and the blade entry edge have a mutual spacing or mutually touch one another, depending on the position of the impeller.

13. (Previously Presented) A screw-centrifugal pump in accordance with claim 12, comprising: a first point on the blade edge section; and a second point on the guide vane edge section, wherein the first point and the second point have the smallest mutual spacing between them of any two points on the first edge section and the guide vane edge section, respectively, and wherein rotating the impeller causes the first point and the second point to move along the axis of rotation in the same direction as fluids.

14. (Previously Presented) A screw-centrifugal pump in accordance with claim 11 wherein the guide vane is fixed to the inlet opening.